

WHAT IS CLAIMED IS:

1. A catalyst comprising a support;
manganese in elemental or combined form; and
5 one or more elements selected from the group consisting of
lithium, sodium, potassium, rubidium, caesium, beryllium,
magnesium, calcium, strontium, barium and zinc in elemental or
combined form,
wherein the support has a BET surface area of less than 200 m²/g.
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2. A process for producing the catalyst according to Claim 1 comprising the
steps of:
providing a support having a BET surface area of less than 200 m²/g;
impregnating the support with one or more solutions, which taken together
15 contain manganese and one or more compounds of one or more
elements selected from the group consisting of lithium, sodium,
potassium, rubidium, cesium, beryllium, magnesium, calcium,
strontium, barium and zinc;
drying the impregnated support; and
20 calcining the dried support.
3. The catalyst made by the process according to Claim 2.
4. In a process for producing an epoxide from a hydrocarbon comprising
25 reaction of the hydrocarbon with an oxygen-containing gaseous oxidizing agent in
the presence of a catalyst, the improvement comprising the catalyst containing
manganese in elemental or in combined form and containing one or more
elements selected from the group consisting of lithium, sodium, potassium,
rubidium, cesium, beryllium, magnesium, calcium, strontium, barium and zinc in
30 elemental or combined form.

5. The process according to Claim 4, wherein the oxidizing agent is selected from the group consisting of oxygen and nitrogen oxides.